

11th November 2020

Digital Twin integrated with operations and maintenance data

Your Partner in Digital Transformation

Presented by: **Jacob Mathew, Digital Business Solutions EMEA**



AVEVA



The Digital Twin

Digital Twins are digital representations of industrial assets and processes combining **data and knowledge of assets and processes** with **intelligence** in the form of **analytics, models, rules** to drive a “**specific business outcomes**”.

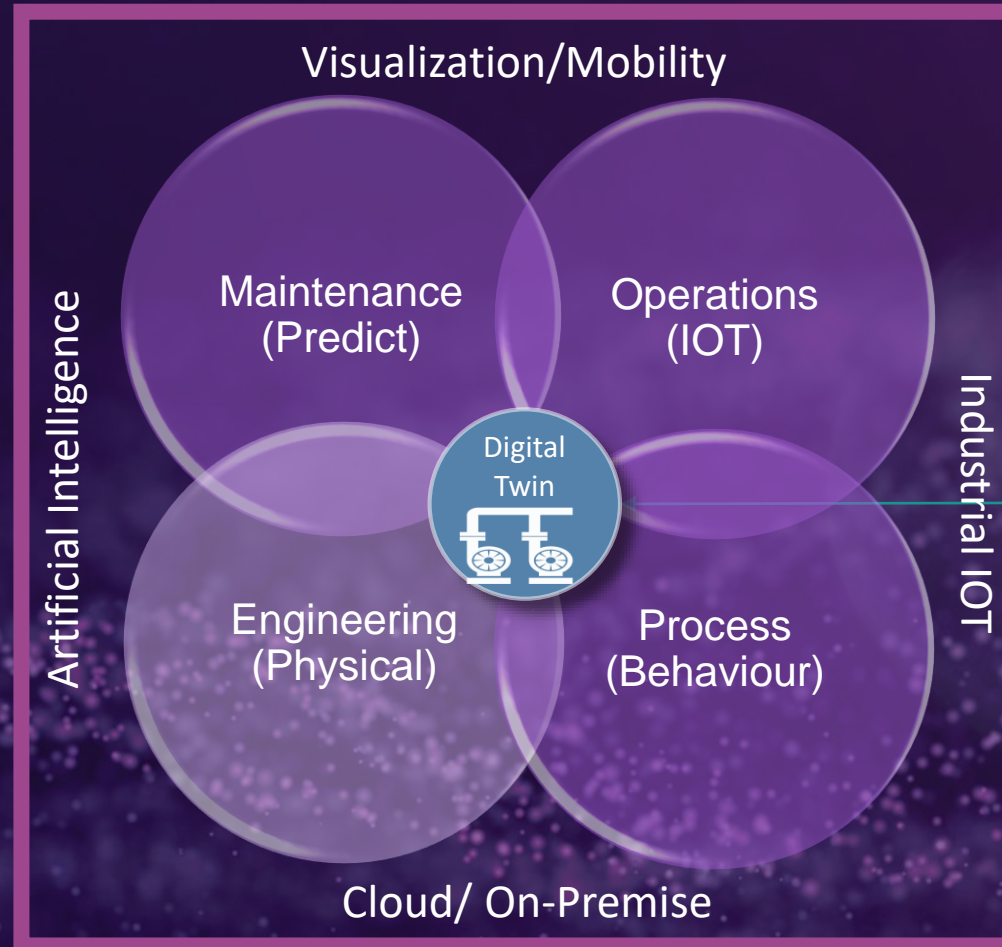
Digital Twins enables Higher Performance

DIGITAL MAINTENANCE DATA

- Non-transactional data
- Vendor/catalogue data
- Procurement/Spare Parts
- Maintenance/EAM/APM

DIGITAL ENGINEERING DATA

- Non-transactional data
- Physical Structure



DIGITAL OPERATIONS DATA

- Transactional data
- Real or Historical Operations data
- Sensors, IOT
- Historians
- DCS/SIS/PLC etc..

Digital Twin =

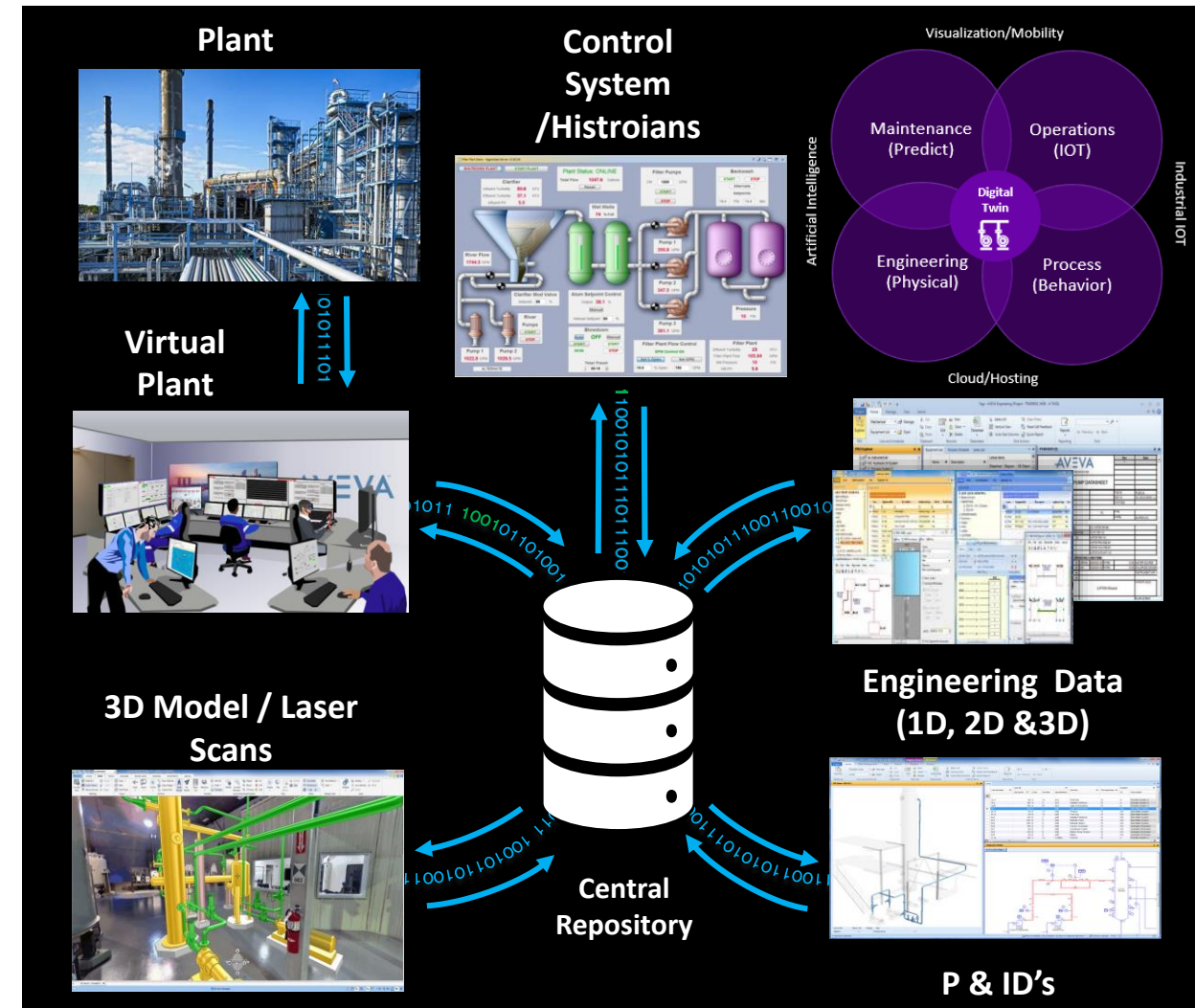
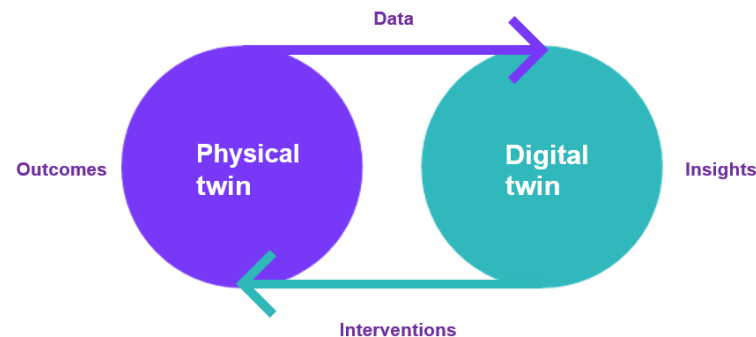
- Engineering (Physical) DATA
- Process (Behaviour) DATA
- Operations DATA
- Maintenance DATA

DIGITAL PROCESS DATA

- Non-transactional data
- Process Behaviour

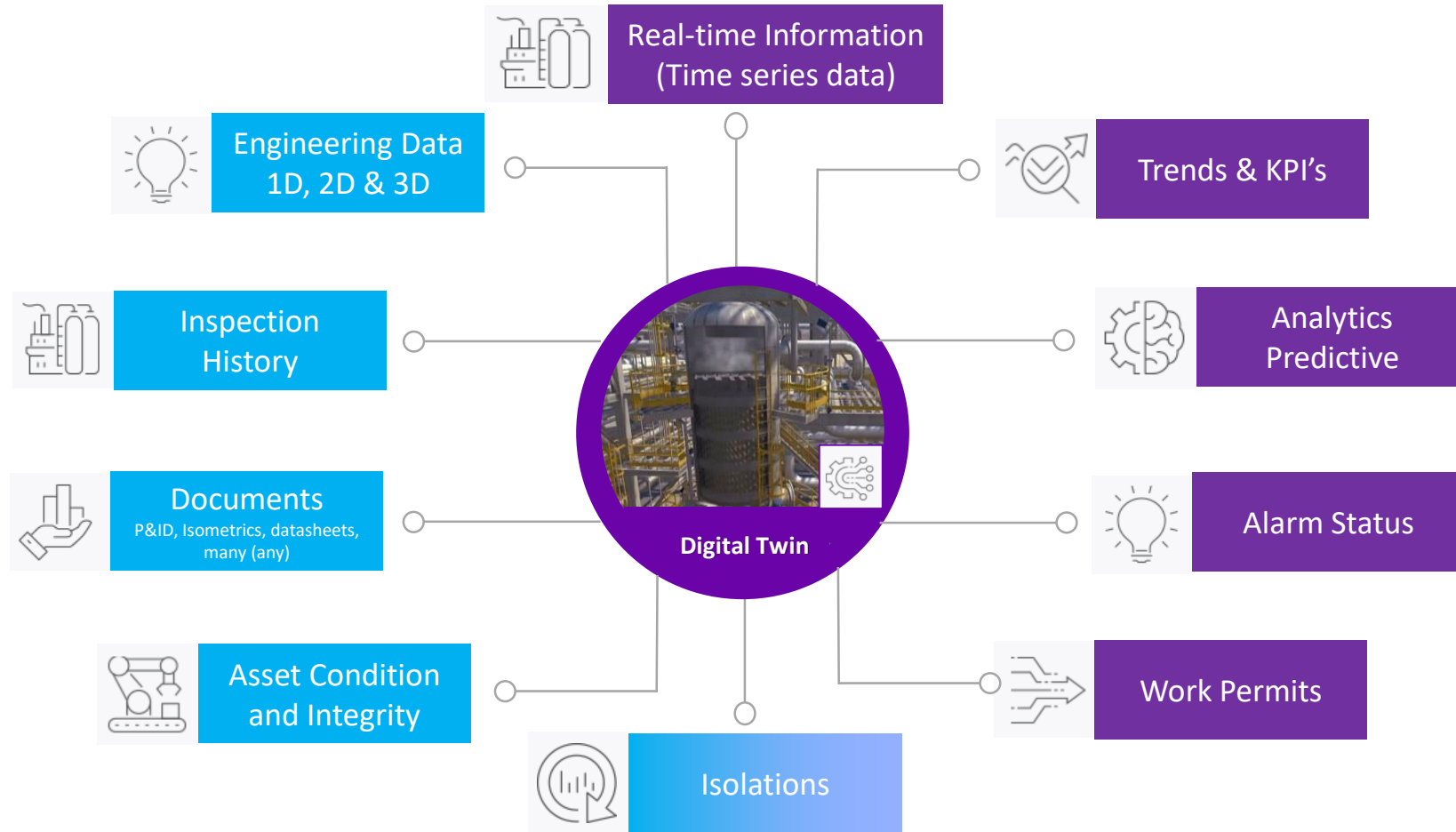
Data-centricity is the cornerstone of AVEVA's Digital Twin

- Drives business outcomes with data at its core.
- Continuously Learns as models are revised in real-time.
- Work with the same trusted data – “Single source of truth”.
- Enable remote visualization and collaboration.
- Continual handover of trusted information into operations, maintenance, safety and governance.
- Scalable - single site to multiple site to enterprise wide



AVEVA

Data Sources for Digital Twin



Connected

“Live” connection between physical and digital world

Integrated

Checks and Links multiple data sources

Visualize

Provides advanced visualization of real-time multiple data sources

Analysis

Simulations and predictions can be made

Secure

Information is managed in a way that reduces the risk of data being compromised

Visualization capabilities of the digital twin

Unified Operations | Edge to Enterprise Operations | Situational Awareness

AVEVA's Living Digital Twins – Enabling Future Workforce



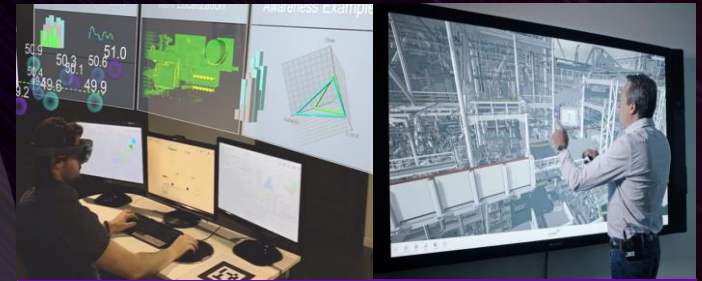
Design Review & Commissioning



Workforce Training



Operations and Maintenance



Asset Surveillance

3D Visualization

(Assets and Operations Lifecycle)

Plan
and Schedule

Engineer
Procure
Construct

Operate
and Optimize

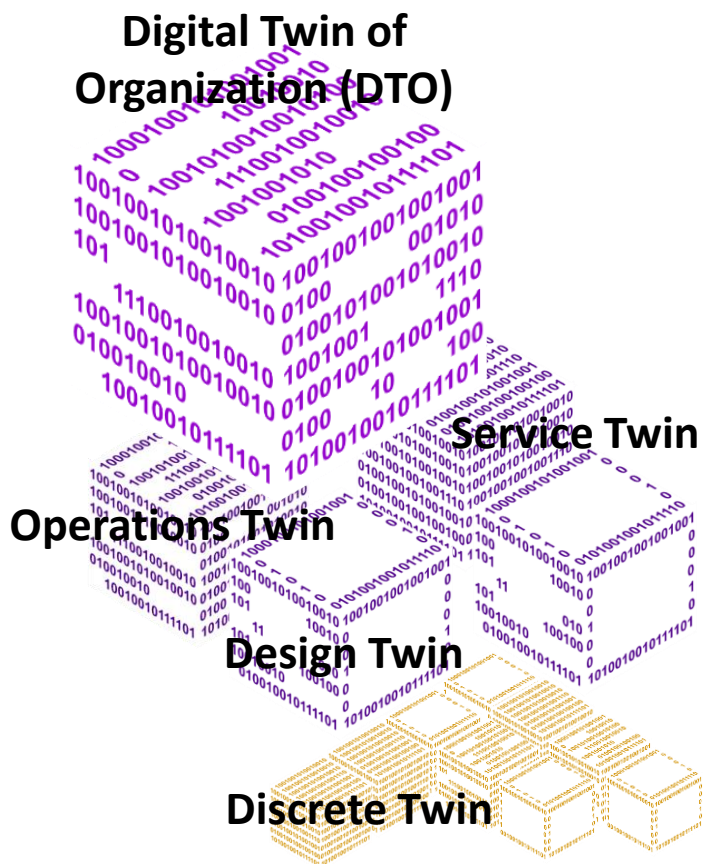
AVEVA™

Asset
Performance

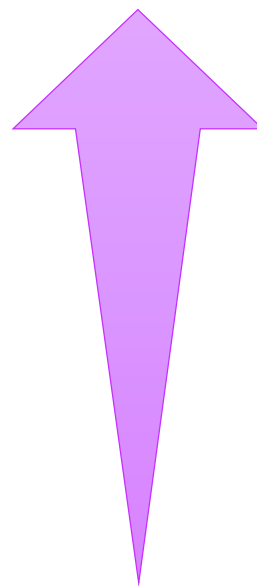
Control
and Monitor

Integrating Digital Twins Enterprise Wide

Current state



Living Data

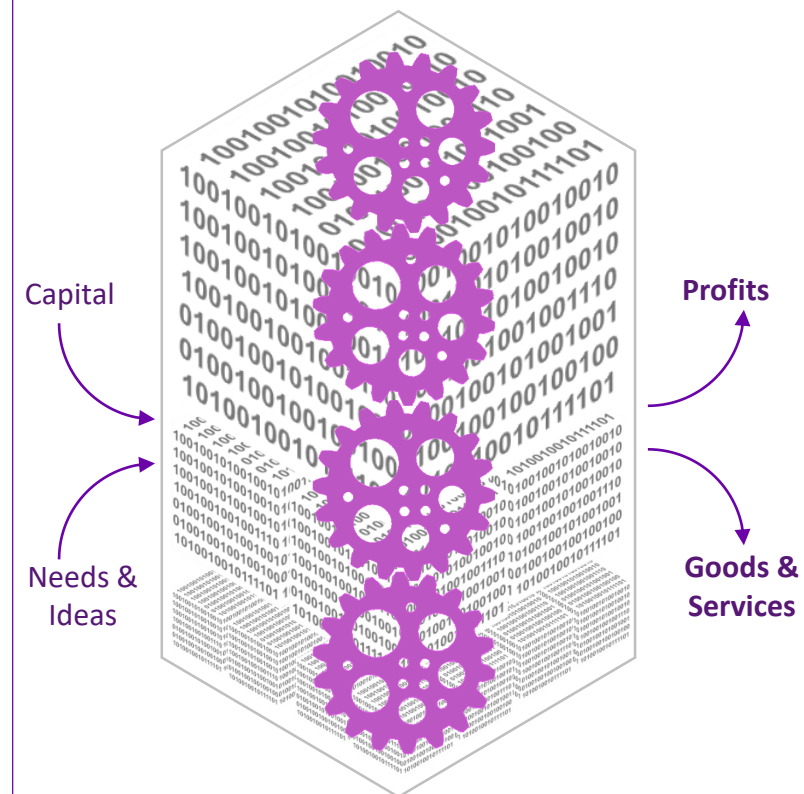


1 Sensor

State Changes

- @ Business level
- @ Function level
- @ System level
- @ Subsystem level
- @ Equipment level
- @ Component level
- @ Tag level

Future state "Money Machine"

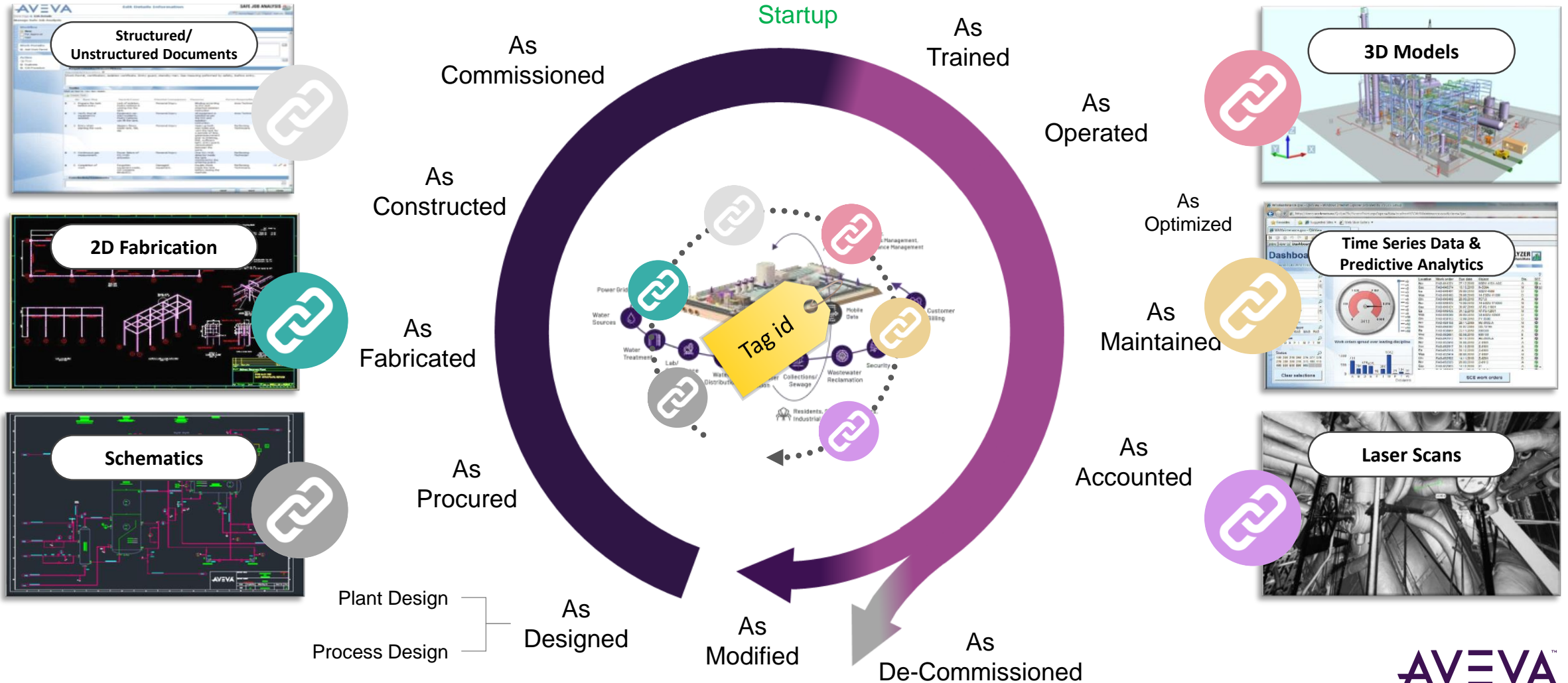


Digital Threads: A means to integrate Digital Twins across your Asset and Operational Lifecycle

DESIGN, BUILD (& MODIFY)

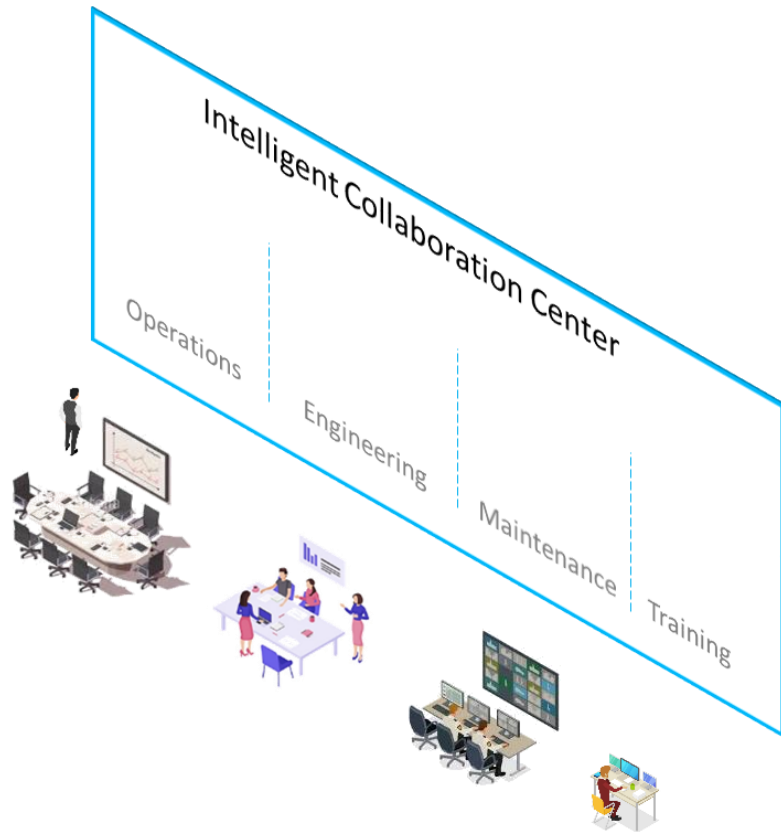
HANDOVER

OPERATE & MAINTAIN

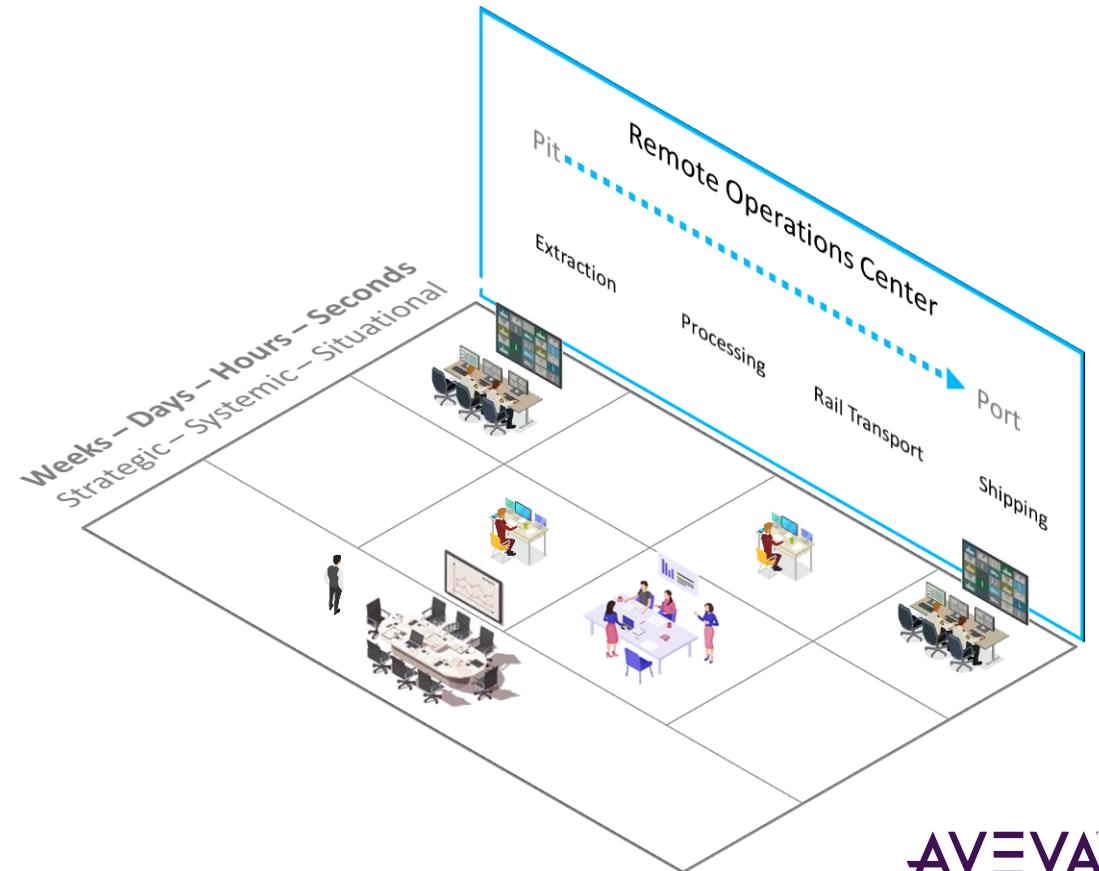


Empowering People to deliver outcomes

Client in Refining industry using Digital Twin



Client in Mining industry using Digital Twins





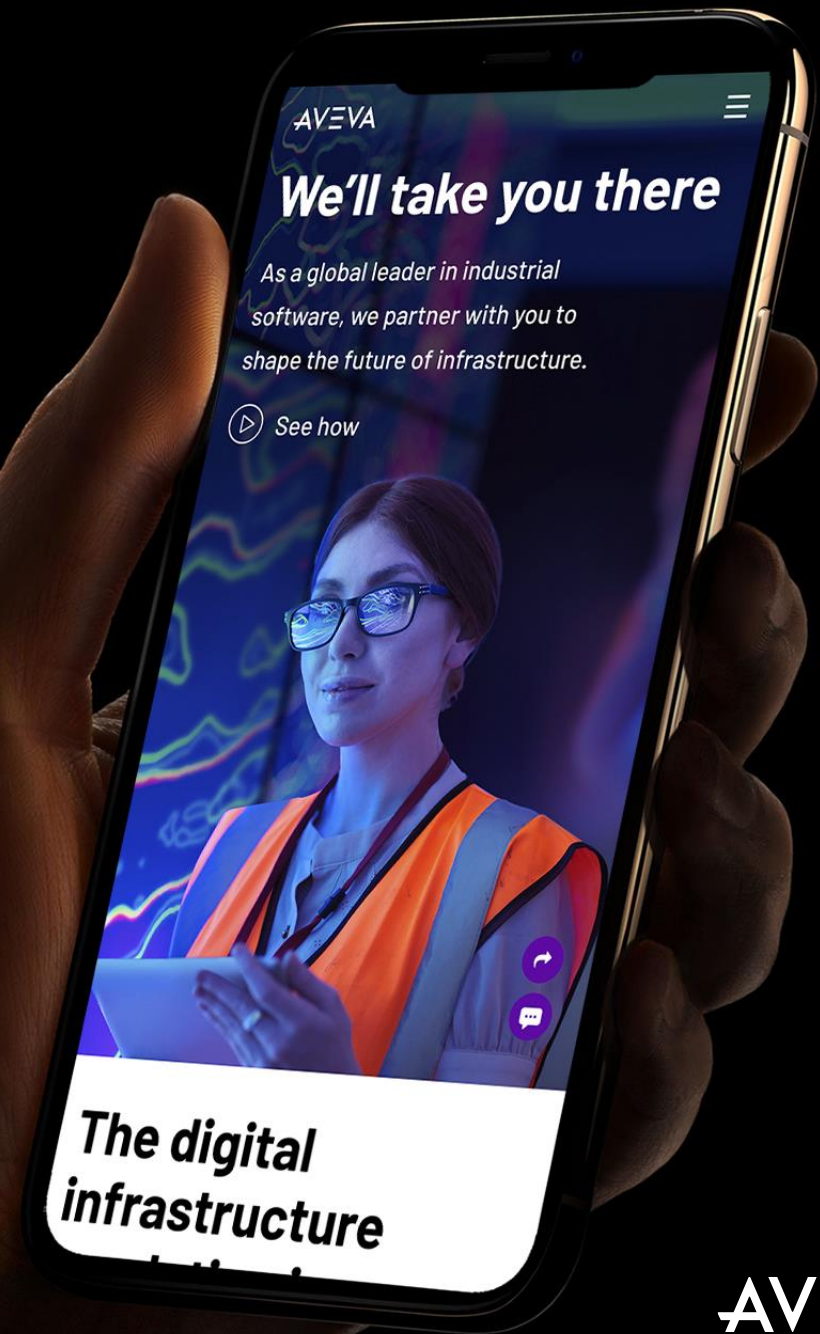
enel


ENEL Italy utilizes AVEVA's solutions to help them realize the fully-autonomous digital plant


Realizing the autonomous plant

AI-infused Digital Twin

Questions?



 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

 [@avevagroup](https://twitter.com/avevagroup)

ABOUT AVEVA

AVEVA is a global leader in engineering and industrial software driving digital transformation across the entire asset and operational life cycle of capital-intensive industries.

The company's engineering, planning and operations, asset performance, and monitoring and control solutions deliver proven results to over 16,000 customers across the globe. Its customers are supported by the largest industrial software ecosystem, including 4,200 partners and 5,700 certified developers. AVEVA is headquartered in Cambridge, UK, with over 4,400 employees at 80 locations in over 40 countries.

[aveva.com](https://www.aveva.com)